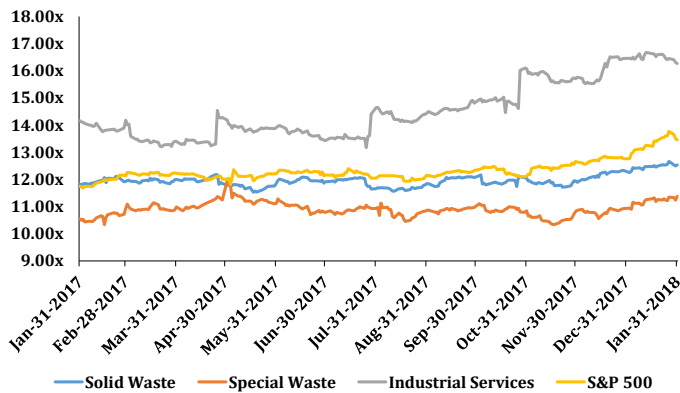


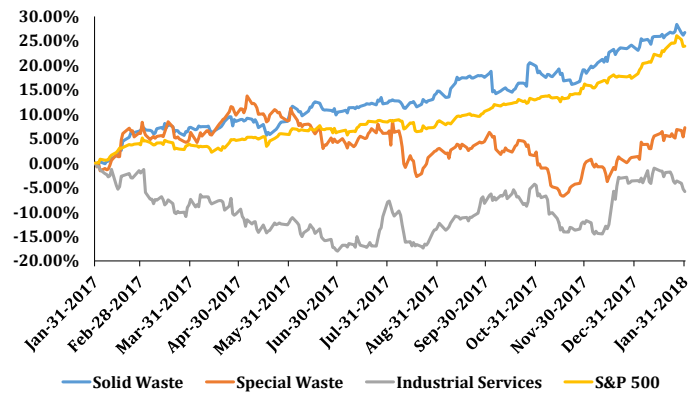
# Trash Talk

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Environmental Services LTM TEV/EBITDA



Environmental Services LTM Share Price (Shown as % change)



Indices Performance (% change)

	January 2018	LTM		January 2018	LTM
S&P 500	4.7%	23.9%	Solid Waste	2.1%	26.7%
Dow Jones	5.3%	31.6%	Special Waste	6.1%	7.3%
NASDAQ	5.8%	32.0%	Industrial Services	(2.3%)	(5.8%)

(Source: CapitalIQ)

Largest Environmental Services Movers and Losers (largest % changes in the month of January)

Industrial Services of America, Inc.	36.6%	CECO Environmental Corp.	(11.7%)
Cypress Energy Partners, L.P.	22.7%	Covanta Holding Corporation	(3.3%)
Casella Waste Systems, Inc.	11.1%	Perma-Fix Environmental Services, Inc.	(1.4%)
Stericycle, Inc.	10.8%		
Sharps Compliance Corp.	8.8%		

## Environmental Services Industry Contacts

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## Select Public Trading Statistics (as of 1/31/2018)

### Solid Waste:

(\$ in millions, except per share data)

Company	Share Price 01/31/2018	% of 52 Wk High	Market Capitalization	Enterprise Value	Valuation Multiples			PE Multiples			LTM Operating Margins			Net Debt/EBITDA	
					TEV/Total Revenue	TEV/EBITDA	TEV/EBIT	LTM P/E	CY17 P/E	CY18 P/E	Gross	EBIT	EBITDA		
Waste Management, Inc.	WM	\$88.43	98.6%	\$38,398	\$47,730	3.3x	12.4x	19.1x	28.3x	26.5x	23.2x	37.7%	18.1%	27.6%	2.4x
Republic Services, Inc.	BSG	\$68.80	99.1%	\$22,995	\$30,791	3.1x	11.3x	18.9x	29.1x	27.6x	21.4x	38.1%	16.5%	27.6%	2.9x
Waste Connections, Inc.	WCN	\$71.82	96.8%	\$18,935	\$22,408	5.0x	15.7x	27.7x	54.6x	36.0x	30.9x	41.6%	17.6%	31.3%	2.4x
Advanced Disposal Services, Inc.	ADSW	\$24.37	94.8%	\$2,156	\$4,117	2.8x	10.4x	32.9x	NM	55.2x	50.2x	37.0%	8.4%	26.6%	5.0x
Casella Waste Systems, Inc.	CWST	\$25.58	93.4%	\$1,075	\$1,558	2.6x	13.5x	29.2x	NM	32.6x	32.5x	32.7%	9.0%	19.4%	4.2x
Meridian Waste Solutions, Inc.	MRDN	\$1.08	27.0%	\$18	\$109	2.3x	31.0x	31.0x	NM	NM	NM	31.4%	(28.2%)	7.3%	25.6x
Mean				\$13,929	\$17,785	3.2x	15.7x	25.5x	37.4x	35.6x	31.7x	36.4%	6.9%	23.3%	7.1x
Median				\$10,546	\$13,262	3.0x	13.0x	27.7x	29.1x	32.6x	30.9x	37.3%	12.7%	27.1%	3.6x
High				\$38,398	\$47,730	5.0x	31.0x	32.9x	54.6x	55.2x	50.2x	41.6%	18.1%	31.3%	25.6x
Low				\$18	\$109	2.3x	10.4x	18.9x	28.3x	26.5x	21.4x	31.4%	(28.2%)	7.3%	2.4x

Source: Capital IQ

Total Enterprise Value (TEV) = Market Capitalization + Preferred Equity + Debt + Minority Interest - Cash

LTM = Last Twelve Months

### Special Waste:

(\$ in millions, except per share data)

Company	Share Price 01/31/2018	% of 52 Wk High	Market Capitalization	Enterprise Value	Valuation Multiples			PE Multiples			LTM Operating Margins			Net Debt/EBITDA	
					TEV/Total Revenue	TEV/EBITDA	TEV/EBIT	LTM P/E	CY17 P/E	CY18 P/E	Gross	EBIT	EBITDA		
Stericycle, Inc.	SREL	\$75.36	85.6%	\$6,434	\$9,171	2.5x	12.3x	17.8x	NM	17.3x	17.6x	44.0%	14.3%	20.8%	3.6x
Clean Harbors, Inc.	CLH	\$55.34	89.8%	\$3,151	\$4,419	1.5x	10.7x	35.8x	NM	NM	NM	29.7%	4.3%	14.2%	3.1x
Darling Ingredients Inc.	DAR	\$18.54	95.1%	\$3,053	\$4,777	1.3x	9.9x	26.0x	48.3x	89.8x	28.9x	21.4%	3.7%	12.0%	3.8x
US Ecology, Inc.	ECOL	\$52.25	93.7%	\$1,140	\$1,411	2.9x	13.9x	23.7x	43.5x	34.1x	27.5x	30.4%	13.6%	21.8%	2.3x
Sharps Compliance Corp.	SMED	\$4.45	77.7%	\$72	\$68	1.7x	NM	NM	NM	NM	NM	30.5%	0.4%	4.3%	(2.0x)
Perma-Fix Environmental Services, Inc.	PESI	\$3.60	83.7%	\$42	\$46	0.9x	16.9x	NM	NM	NM	NM	21.3%	(3.8%)	5.3%	1.1x
Mean				\$2,315	\$3,315	1.8x	12.7x	25.8x	45.9x	47.1x	24.7x	29.6%	5.4%	13.1%	2.0x
Median				\$2,097	\$2,915	1.6x	12.3x	24.9x	45.9x	34.1x	27.5x	30.0%	4.0%	13.1%	2.7x
High				\$6,434	\$9,171	2.9x	16.9x	35.8x	48.3x	89.8x	28.9x	44.0%	14.3%	21.8%	3.8x
Low				\$42	\$46	0.9x	9.9x	17.8x	43.5x	17.3x	17.6x	21.3%	(3.8%)	4.3%	(2.0x)

Source: Capital IQ

Total Enterprise Value (TEV) = Market Capitalization + Preferred Equity + Debt + Minority Interest - Cash

LTM = Last Twelve Months

### Industrial Services:

(\$ in millions, except per share data)

Company	Share Price 01/31/2018	% of 52 Wk High	Market Capitalization	Enterprise Value	Valuation Multiples			PE Multiples			LTM Operating Margins			Net Debt/EBITDA	
					TEV/Total Revenue	TEV/EBITDA	TEV/EBIT	LTM P/E	CY17 P/E	CY18 P/E	Gross	EBIT	EBITDA		
Covanta Holding Corporation	CVA	\$16.35	94.5%	\$2,136	\$5,071	3.0x	18.0x	68.5x	NM	NM	NM	29.5%	4.2%	16.3%	10.5x
Heritage-Crystal Clean, Inc	HCCI	\$21.75	86.3%	\$498	\$493	1.4x	11.7x	20.6x	25.0x	34.0x	28.3x	25.4%	6.7%	11.8%	(0.1x)
CECO Environmental Corp.	CECE	\$4.53	34.1%	\$157	\$255	0.7x	6.4x	10.7x	NM	19.3x	15.6x	33.4%	6.4%	10.7%	2.5x
Cypress Energy Partners, L.P.	CELP	\$7.36	51.6%	\$88	\$182	0.6x	12.2x	20.0x	35.5x	18.0x	17.9x	12.1%	3.1%	5.1%	7.9x
Ecology & Environment, Inc.	EEI	\$10.80	82.7%	\$46	\$31	0.3x	4.7x	5.6x	17.4x	NM	NM	45.0%	5.3%	6.3%	(2.5x)
Quest Resource Holding Corporation	QRHC	\$2.31	77.0%	\$35	\$41	0.3x	NM	NM	NM	(16.7x)	NM	10.2%	(3.2%)	(0.6%)	(5.7x)
Fuel Tech, Inc.	FTFK	\$1.14	87.7%	\$28	\$21	0.5x	NM	NM	NM	NM	NM	34.5%	(27.9%)	(21.8%)	0.7x
Industrial Services of America, Inc.	ISDA	\$2.24	84.8%	\$18	\$25	0.5x	13.6x	NM	NM	NM	NM	6.4%	(0.8%)	3.6%	3.9x
Mean				\$376	\$765	0.9x	11.1x	25.1x	26.0x	13.7x	20.6x	24.5%	(0.8%)	3.9%	2.1x
Median				\$67	\$112	0.6x	12.0x	20.0x	25.0x	18.7x	17.9x	27.4%	3.7%	5.7%	1.6x
High				\$2,136	\$5,071	3.0x	18.0x	68.5x	35.5x	34.0x	28.3x	45.0%	6.7%	16.3%	10.5x
Low				\$18	\$21	0.3x	4.7x	5.6x	17.4x	(16.7x)	15.6x	6.4%	(27.9%)	(21.8%)	(5.7x)

Source: Capital IQ

Total Enterprise Value (TEV) = Market Capitalization + Preferred Equity + Debt + Minority Interest - Cash

LTM = Last Twelve Months





# Trash Talk

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## Select Mergers and Acquisitions & Capital Raising News

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### ❖ Casella Waste Systems Completes Two Acquisitions

January 5, 2018 – Rutland, Vermont-based Casella Waste Systems, Inc. completed its acquisition of all of the outstanding stock of integrated solid waste services provider Complete Disposal Company, Inc. and its subsidiary United Material Management of Holyoke, Massachusetts, Inc. for a total consideration of up to \$16.5 million. Complete Disposal, which is expected to generate approximately \$17.0 million of revenue in 2018, provides residential and roll-off collection services, operates a construction and demolition processing facility and operates a 750 tons per day solid waste transfer station with both truck and rail transfer capabilities. In addition to that acquisition, Casella acquired the commercial and residential collection assets from a hauler in Vermont for a total consideration of up to \$1.8 million on December 29, 2017.

### ❖ GFL Environmental Reportedly Hires Advisors for IPO

January 10, 2018 – Talk of a potential IPO for Canadian solid waste firm GFL Environmental Inc. continues to heat up with the latest news being that the firm has reportedly signed on Royal Bank of Canada, Goldman Sachs Group Inc. and Bank of Montreal to lead its initial public offering. GFL, which is currently owned by private equity investors, has been on a growth path in recent years, including in some U.S. markets. Notably, it purchased Sterling Heights, Michigan-based Rizzo Environmental Services Inc. last year. According to previous reports, the IPO would be worth about C\$1 billion (\$800 million).

### ❖ Action Environmental Group Acquires Mid Bronx Haulage

January 10, 2018 – Action Environmental Group, provider of non-hazardous waste management and recycling services for New York City, Northern New Jersey, Rockland and Orange County, New York, has acquired Mid Bronx Haulage Corp., a Bronx, New York-based waste management company. With this transaction, Action Environmental Group, through its subsidiary Action Carting Environmental Services, Inc., has acquired operations and certain assets of Mid Bronx located a few blocks from Action Environmental's Bronx depot. This convenient location makes for an easy transition for the many area employees who will now join the Action Environmental team.

### ❖ Meridian Waste Solutions Acquires Wilson Waste Systems

January 11, 2018 – Meridian Waste Solutions, Inc. has announced the acquisition of Wilson Waste Systems, LLC, a local hauler in the greater St. Louis area including St. Charles, Lincoln and Warren Counties. Wilson Waste handles collection and disposal services for both residential and commercial properties and works with roughly 17,000 customers in total. Another Meridian subsidiary, Attis Innovations Inc., was recently awarded a \$3 million grant from the USDA to commercialize its lignin conversion and refining technologies. Meridian, a publicly-traded firm, posted quarterly revenues of \$14.8 million in the third quarter of 2017.

### ❖ Food Waste Startup FoodMaven Acquires Series A Funding

January 11, 2018 – FoodMaven, a Colorado-based food waste startup that works to keep food out of landfills, has secured \$8.6 million in Series A funding. Among the investors contributing are the Waltons, the heirs of Walmart's founder Sam Walton and former Whole Foods CEO Walter Robb. FoodMaven is certainly not the first organization committed to reducing the amount of food in landfills. However, what makes it unique is that it's a for-profit enterprise, thinking more like a tech startup than a charitable organization. The multimillion dollar startup essentially operates as a food consignment store. It will receive oversupplied food or products that are more than good but turned down by supermarkets for cosmetic reasons, and it will sell that food to consumers for much less than the market rate. FoodMaven sees this as a way to combat the age-old supply and demand inefficiency in the food market, and they've found great success in Colorado, having partnered with 700 Colorado businesses in roughly 18 months.

### ❖ WCA Waste Connection Acquires Flynn's Raytown Disposal

January 19, 2018 – WCA Waste Corporation (WCA), the Houston-based solid waste services company, has acquired Flynn's Raytown Disposal in Raytown, Missouri. WCA will assume operation of all services to Flynn's customers both residential and commercial, and it will also retain all former Flynn's employees. WCA, which provides services to more than 500,000 customers across 10 states, will gain approximately 5,500 new customers with this acquisition.

### ❖ Meridian Waste Solutions Acquires EnviCare

January 25, 2018 – Meridian Waste Solutions, Inc. has acquired RedX Medical, LLC (d/b/a EnviCare). This acquisition allows Meridian to expand its healthcare footprint, which was established by the acquisition of four companies in 2017. EnviCare is a regulated medical waste company that will provide waste transportation and disposal solutions for regulated and specialized waste, pharmaceutical disposal solutions, sharps management services, controlled substance waste solutions, integrated waste solutions for large healthcare facilities and compliance training and education for the healthcare industry. EnviCare is based in the Atlanta area with the ability to service the Southeast, and expects to expand to cover the entire U.S.



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## ❖ AMCS Acquires Brady Recycling Solutions

January 26, 2018 – Limerick, Ireland-based AMCS, a leading supplier of integrated software and vehicle technology for the waste and recycling industry, has acquired Brady Recycling solutions from London-based Brady plc, a global provider of trading, risk management and settlement solutions to the energy, commodities and recycling sectors. The acquisition extends AMCS' portfolio in the commercial scrap metal recycling sector and strengthens its commitment to the enablement of the circular economy. Brady Recycling has an international customer base of more than 100 metal and other recycling companies in North America, Europe and Australasia. AMCS says its decision to acquire Brady Recycling solutions is consistent with its strategy of growth within the global waste and recycling market, both organically and through targeted acquisition. In the past few years, the company has continued to strengthen its position with the acquisitions of North America-based PC Scale Inc., Europe-based P&L Software and GMT and Australia-based Wastedge. In 2017, AMCS acquired Senddr and its innovative online Digital Engagement platform. The company has also secured significant new business wins in all of its primary markets, which included a number of national and international brands.

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## Select Industry News

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## ❖ Covanta's EfW Facility Undergoes Updates, Resumes Operations

January 2, 2018 – Last year, Morristown, New Jersey-based Covanta Holding Corp.'s Fairfax County Resource Recovery Facility in Fairfax, Virginia, suffered some disruptions due to a fire and a hurricane, causing it to go offline for months. As of December 2017, the facility has resumed operations after upgrades were completed to improve the facility's performance and enhance fire detection, prevention and response. Some of the updates include the use of infrared/thermal imaging cameras, the installation of non-flammable roofing materials and expanded sprinkler systems, improved waste storage procedures and improved notification and coordination protocols with the county and the local fire and rescue department. The energy-from-waste (EfW) facility serves the sustainable waste disposal needs of Fairfax County residents and other neighboring communities. The facility recycles approximately 9,000 tons of metals annually and processes up to 3,000 tons of municipal solid waste per day to produce enough renewable energy to continuously power 80,000 homes.

## ❖ Former Rizzo Environmental Services CEO Accused of Intimidating Witnesses

January 11, 2018 – Chuck Rizzo, the former CEO of Rizzo Environmental Services, is in trouble with federal investigators for allegedly intimidating witnesses in an ongoing public corruption investigation. Rizzo had promised a judge that he would not contact any government witnesses, and allegedly breaking such a promise could tarnish any goodwill he had created through cooperation with the investigation. Rizzo pleaded guilty to bribery and fraud in November 2017 after being indicted on almost two dozen charges in June. The former CEO had bribed several government officials in exchange for preferential treatment in waste contracts. His sentencing isn't scheduled until March, but federal investigators are now calling for Rizzo to be sent directly to prison in order to prevent any further tampering. Rizzo's attorney refused to agree with the request, and a judge has yet to rule.

## ❖ New Bedford Waste Services Announces Plans to Open Zero Waste Facility in Fall 2018

January 12, 2018 – New Bedford Waste Services, LLC, a sister company of ABC Disposal service, has announced plans for a zero waste facility in Rochester, Massachusetts. The company said that it has secured financing for the 100,000-square-foot facility, which will open in the fall of 2018. The facility will accept waste from municipal, residential and commercial properties. It will sort waste manually and mechanically, sorting out recyclable materials and compacting the rest to be used as a fuel alternative to coal. This announcement comes after several setbacks including a fire to the building in Rochester and a bankruptcy case.

## ❖ Rob Hilton Named President of HF&H Consultants

January 17, 2018 – HF&H Consultants, the California-based environmental consulting firm, has named Rob Hilton as its new president. Hilton served as the firm's vice president for 15 years, and succeeds Bob Hilton, who helped found the firm in 1989. Bob will retire in March of 2018. Rob Hilton has worked with dozens of local communities during his time with HF&H, assisting with the negotiation of solid waste collection, processing and/or disposal contracts as well as helping to develop high diversion or zero waste goals. In addition to his work at HF&H, Rob Hilton has also served as the president of the California Resource Recovery Association (CRRA) from 2014-2017.

## ❖ GBB Consultants Names Tom Reardon as New Senior Vice President

January 30, 2018 – The solid waste management consulting firm Gershman, Brickner & Bratton, Inc. (GBB) has named Thomas P. Reardon as senior vice president and member of the ownership group. Reardon previously served as vice president of GBB from 2009 to 2015. While with GBB as vice president, Reardon led several solid waste management planning projects, including waste disposal plans for several U.S. cities. He also oversaw several projects compiling marketplace analysis and assessing waste-to-energy technologies. Prior to joining GBB, Reardon served as a business manager for Covanta Projects, Inc. Reardon is also a former director of the Solid Waste Association of North America's WTE Technical Division.





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❖ **Wyandotte, Michigan Signs Six Year, \$8.2M Contract with Waste Management of Michigan**

January 31, 2018 – Continuing a professional relationship that has been in place for the last seven years, the city of Wyandotte, Mich., has signed a new six-year contract with Waste Management of Michigan, Inc. The \$8.2 million contract will provide residents of Wyandotte with weekly solid waste collection, but curbside recycling and yard waste collection won't be included automatically. Residents wishing to have recycling or yard waste collected will have to subscribe through Waste Management or the Department of Public Services, respectively.

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